

**Lions Gate Public Advisory Committee  
(LGPAC) Meeting #3  
Lions Gate Secondary Wastewater  
Treatment Plant (LGSWWTP)  
*Summary***

**Issues, Comments, Questions  
and Metro Vancouver Responses**

October 30, 2012, 6:30 – 8:30 pm  
Pinnacle Hotel – Ballroom, 138 Victory Ship Way  
North Vancouver, BC





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## 1. Opening Remarks

*Christine Banham, Lions Gate Public Advisory Committee (LGPAC) Chair, called the meeting to order at 6:45 pm. She offered welcoming comments and discussed the role of the LGPAC and the objectives of this meeting:*

- To review the Integrative Design Process (IDP) schedule, LGPAC inputs/outputs into the IDP process and overall public process; and*
- To provide background information on the Lions Gate Secondary Wastewater Treatment Plant (LGSWWTP) as requested by LGPAC members.*

## 2. Administrative Items

*A package of LGPAC member biographies was distributed.*

*Chair Banham introduced and conveyed regrets of two new LGPAC members who were unable to attend this meeting. She discussed the responsibilities of the LGPAC Chair and Process Facilitator, and the role of LGPAC. Members were informed that Metro Vancouver (MV) is developing an online resource library, and were invited to forward any external resource materials for inclusion in the library.*

## 3. Engagement and Integrative Design Process (IDP)

*A timeline charting LGSWWTP meetings from the project definition phase to the design and construction phase was distributed.*

*Robin Mills, Policy Coordinator, Public Involvement Division, Engineering and Construction Department (E&C), Metro Vancouver, discussed LGPAC's engagement in the LGSWWTP process through to early 2014.*

*Fred Nenninger, Project Manager, Wastewater Secondary Treatment Upgrades, Metro Vancouver, provided an overview of the IDP. Four key project objectives were discussed: Secondary Wastewater Treatment; Sustainability (environmental, social and economic); Integrated Resource Recovery; and Community Integration.*

*Mr. Nenninger noted that the IDP is set up in a series of seven integrative design workshops:*

- Workshop #1 (September 2012) – technical team alignment*
- Workshop #2 (October 2012) – initial concepts on the development of long lists of potential solutions to the four key project objectives of secondary wastewater treatment, sustainability, integrated resource recovery and community integration*
- Workshop #3 (December 2012) – create eight to 10 design concepts to meet project objectives*
- Workshop #4 (February 2013) – finalize objectives, select three to six design concepts*
- Workshop #5 (April/May 2013) – select recommended design concept*
- Workshop #6 (May/June 2013) – develop preferred option*
- Workshop #7 (September/October 2013) – present indicative design concept.*



*Mr. Nenninger also noted that the IDP process provides opportunities to review design concepts, and to receive feedback from the LGPAC, Utilities Committee, MV Board, North Shore municipalities and others, as well as the Community Resource Forum (CRF) to help refine and set direction for where conceptual designs are headed. This differs from the typical process in which there would be one primary consultant with sub-consultants working on specific assignments in isolation and feeding back to the primary consultant.*

*Ms. Mills reviewed the timing and objectives for CRF input at meetings and community workshops during the IDP process:*

- *Community Workshop #2 (November 14, 2012) – provide input on community values and the project objectives that will be used to guide the project and to evaluate the design concepts that will be created*
- *Community Workshop #3 (April 2013) – provide input to refine the three to six short-listed design concepts*
- *CRF Meeting #3 (May 2013) – review recommended design concept*
- *Community Workshop #4 (July 2013) – provide input on recommended design concept for development into indicative design*
- *CRF Meeting #4 (February 2014) – input on process and next steps.*

*Ms. Mills discussed the timing and purpose of CRF meetings, LGPAC meetings, community workshops and public meetings planned from the project definition phase through to the design and construction phase. Ms. Mills noted that the community workshop on November 14, 2012 will focus on community values. Future community workshops would involve the architect and engineering consultants to gain input to refine and define the options.*

*Mr. Nenninger spoke on the four key objectives and the intention to develop a project to achieve those objectives and sub-objectives under which several themes were being identified (e.g. minimizing costs, minimizing greenhouse gas emissions, etc.). These would be streamlined and compared to one another to narrow the technical work from broad objectives into eight to 10 design concepts. There would then be a further screening to short-list to three designs that would be looked at explicitly in terms of the business case.*

*Carol Mason, Commissioner and Chief Administrator Officer, Metro Vancouver, introduced herself to LGPAC members and discussed her role in overseeing MV staff, reporting to the Board, and working closely with MV's 22 member municipalities. She committed to working with the North Shore communities as part of the design process moving forward, and thanked LGPAC members for their participation as volunteers.*



## 4. LGPAC Foundational Questions, Responses and Information Requirements

A document titled "Lions Gate Secondary Wastewater Treatment Plant Responses to Questions Regarding Foundational Decisions" was distributed. For a copy of this document, please visit [www.metrovancouver.org/lionsgate](http://www.metrovancouver.org/lionsgate) and search the "Resource Library".

Mr. Nenninger referred to an overhead presentation that covered:

1. Regulations
2. Plant Location
3. Distributed Treatment vs. Centralized Treatment
4. Public – Private Partnership
5. Funding Strategy.

LGPAC members reiterated that they have a strong interest in understanding and reviewing fundamental decisions and issues about the project. Chair Banham noted that there are some decisions that have been made that are not within the LGPAC's scope to review including the decision about whether or not the new treatment plant will be built.

Following a question and answer period between members and MV staff, Process Facilitator John Forsdick, Context Research Ltd., asked members if they felt that foundational issues raised during previous meetings had been dealt with and if the LGPAC could move on. Members agreed that the group could move forward, noting that it may still wish to raise questions around fundamental decisions in the future.

Mr. Forsdick acknowledged the following additional points raised by LGPAC members during the meeting:

- Optional uses and water uses
- Risk of rise in sea levels
- Categories of what defines sustainability and how the community side of sustainability is addressed and linked to setting objectives
- Scale and building the right size facility to manage demand without overbuilding
- Plan to address future higher levels of treatment
- Interest in what MV is doing to stimulate demand management and an interest in MV having discussions with municipalities
- Demand for reclaimed water
- Use of the plant as a demonstration plant to showcase technology
- Application of membrane technology.



## 5. Issues, Comments, Questions and Metro Vancouver Responses

*The following table summarizes MV's responses to questions and concerns provided by attendees throughout the meeting:*

Issue, Comment, Question	Response
<b>SUSTAINABILITY</b>	
<p>How has sustainability been defined and how will it be reflected in the objectives? Is there something unique about community integration to differentiate it from the social aspect of sustainability?</p>	<p>MV indicated that these categories are in the process of being fleshed out with objectives, for example around odour and noise, integration with community in terms of use of space, etc. Some themes may be competing against each other, while some are mutually exclusive. A decision process will be used to resolve which themes will be reflected in the objectives.</p>
<p>What are the types of themes under sustainability that could be evaluated?</p>	<p>MV indicated sustainability themes included concepts such as: making better use of energy beyond what we have already done, and use of reclaimed water over and above what we have already done.</p>
<b>REGULATIONS</b>	
<p>In the Capital Regional District (CRD) process, it was said that going from primary to secondary treatment, given their outfall and receiving waters, could be worse than staying at primary. What is the theory around that?</p>	<p>MV is not aware of theories that removing more materials from the discharge could make matters worse.</p>
<p>A member familiar with the issues noted that the theory is not so much that it is worse to go to secondary treatment, but that some treatment processes can change compounds that result in unintended outcomes. This should be kept in mind when selecting the technology.</p>	<p>Comment noted.</p>
<p>Has a decision been made on discharge objectives as to any reductions, or an exemption on ammonia?</p>	<p>MV indicated that there is no exemption for ammonia. The levels need to be met to comply with requirements relating to fish toxicity. For the LGSWWTP upgrade, the technical team needs to assess processes that will minimize the risk of not meeting standards. There are nitrification and ammonia streams that need to be looked at in this upgrade.</p>





Issue, Comment, Question	Response
<b>PLANT LOCATION</b>	
Will the outfall remain in its current location?	MV is planning to use the existing outfall which is on Port Metro Vancouver leased lands, but there is ongoing engagement with the Squamish Nation regarding interceptors across their lands. Right-of-way agreements are needed from the new site.
Are there right-of-ways in place now?	MV indicated that there are partial rights in place and that work continues to establish full rights-of-way.
Was there an opportunity to negotiate continued occupancy of the current site?	MV advised that it had looked at expanding the plant on the current site that is located on lands that will be returned from the province to the Squamish Nation; however, the Squamish Nation has indicated that it has other plans for the site.
Can the new site handle upgrades and volume past 2046, or will other types of tertiary treatment need to be added?	<p>When MV bought the new site, due diligence was done around technologies that could be built on it. It was determined that we could build a secondary treatment plant on that site to serve the North Shore for at least 50 years. The likelihood of a tertiary treatment process that would require significant nutrient removal is very low; however, upgrading to potential tertiary treatment is a consideration in the review of potential secondary technologies.</p> <p>MV will consider possible future regulations when assessing technology solutions during the IDP (e.g., a hybrid membrane plant that would provide a much different removal rate).</p>
What is being done to plan for the rising sea level, which is expected to go up quite significantly in the next 20-30 years?	MV indicated that the technical team is aware of and has acknowledged the risks at the site. It is in a liquefaction zone, in the MacKay Creek flood zone, brown field site, and fairly low in terms of the sea level. As such, the plant design will need to take these items into consideration such that it is protected from these risks. Mitigation measure may include raising the site and critical equipment (flooding & sea-level rise) and soil densification (liquefaction).



Issue, Comment, Question	Response
<b>DISTRIBUTED TREATMENT VS. CENTRALIZED TREATMENT</b>	
<p>Would you see using this plant as a pilot project? (e.g., to demonstrate a satellite system).</p>	<p>MV noted that the potential for satellite systems would be discussed when determining what has to be built to service the population with systems and regulations in place today. The building will have a growth projection associated with it. There will also be discussions around local policies or other changes that could alter the demand curve.</p>
<p>Could the education component for this site include a pilot?</p>	<p>MV agreed that a pilot could possibly form part of the education component.</p>
<p>The District of North Vancouver (DNV) is advanced in its plans for the lower Capilano Marine Drive Village. Is discussion going on with DNV?</p>	<p>MV advised that it is not aware of DNV progress on that particular development and agreed now would be a good time to initiate discussions with DNV.</p>
<p>Engineers are very conservative and they make sure there is lots of capacity in place (i.e., plants often use only a portion of their total possible capacity). It is prudent to take ideas such as small package plants into consideration and see how that impacts the design.</p>	<p>MV expects to see small package plants and “just in time” build vs. larger build options as part of the eight to 10 scenarios developed during the IDP.</p>
<p>What is meant by “just in time”?</p>	<p>MV explained that currently there are 190,000 people in the area that need to be served by the wastewater treatment plant, rising to an expected 300,000 people to be served towards the end of the century. “Just in time” would be an initial build that would be designed to serve the area for 15 years. Practically as soon as it was commissioned, MV would start to design the first upgrade, in light of population and policy at the time. This is compared to a build that serves the entire 300,000 person capacity that is expected this century.</p>
<p>Engineers often design for full capacity and then turn over plants to the operators to operate at only 50 per cent loading, which can cause issues. There are good reasons to build to scale and to later expand capacity.</p>	<p>MV acknowledged that the issue is not two sites versus one site, but the scaling to make sure that the treatment plant is the right size at the right time – to not build to over capacity and to ensure that we are managing the facility properly in order to meet demand.</p>





Issue, Comment, Question	Response
<b>DISTRIBUTED TREATMENT VS. CENTRALIZED TREATMENT cont.</b>	
<p>The Stantec/Dayton Knight report did not specifically look at water reuse, but considered economic strategy of three versus two sites. If scale is an issue then there are some specific advantages in terms of piping – 90 per cent of the cost of the infrastructure is in the piping. The Fidelis report focused on energy recovery.</p> <p>Conclusions from the Stantec/Dayton Knight and Fidelis reports are premature and did not look at infrastructure, collection, and/or water reuse potential.</p> <p>DNV, City of North Vancouver and the District of West Vancouver have not been involved in considering economic impacts of site location(s).</p> <p>Additional attention should focus on the fact that the MV Integrated Solid Waste and Resource Management Plan includes water reuse.</p>	<p>With regard to infrastructure, MV has found that the wastewater interceptor system in place will serve the North Shore for decades to come.</p> <p>The Regional Growth Strategy (RGS) identified the lack of industrial land. MV has considered and looked at the idea of reserving lands around the Second Narrows for wastewater treatment beyond this century but has concluded that looking 100 years ahead is as far as we can go in terms of imagining what wastewater treatment might look like.</p> <p>The reclaimed water opportunity continues to be of interest to MV. If there is a business case, a small package plant could be considered as part of the system.</p>
<p>There has not been any background information provided on whether there is demand for reclaimed water (e.g., Neptune Terminals and Northview Golf Course).</p> <p>Has MV started looking at potential opportunities for reclaimed water? (e.g., flushing toilets with reclaimed water in a 20-storey building).</p>	<p>MV will be discussing potential water reuse opportunities with municipalities in the future. The technical team is focused on water demand areas identified in past studies and data from municipalities.</p> <p>There is less reclaimed water demand in the region compared with some other areas of the world. Reclaimed water use is evolving slowly and requires special exceptions to the health and plumbing codes. Health departments are also pushing back on who has responsibility.</p>
<p>Vancouver Coastal Health is in favour of reclaimed water when done appropriately (e.g., the Vancouver Convention Centre and the UBC green roof irrigation). Control is with the Ministry of Environment (MoE) through the wastewater regulation – a letter of authorization is needed. Permitting in the municipality is a key issue, so it is good to have municipalities involved.</p>	<p>Comment noted.</p>



Issue, Comment, Question	Response
<p>Is there a study/survey available online regarding water studies on potable water uses?</p>	<p>MV indicated that they are not online because they are considered proprietary.</p>
<p><b>PUBLIC – PRIVATE PARTNERSHIP (P3)</b></p>	
<p>Could we have clarity on the financing structure? Specifically on the P3 model. It is not clear whether we would need to use a P3 on this size project.</p> <p>MV has stated that P3 would be considered with the base case over \$50 million. The government has only indicated that if you want more money then you have to consider it seriously.</p>	<p>MV advised that the government policy has been in place for more than a decade. It is like negative billing — the onus is on the organization to work through the situation and come up with the best strategy for build scenarios considering P3.</p>
<p>A member noted that the biggest savings in a P3 is operating because the frontend costs are design, optimization and build. If we are serious about a P3 then to get the best deal we should look at having a third party operating the facility.</p>	<p>MV indicated that the plan is to do the financial analysis of P3 and other options during the Integrative Design Process (IDP).</p>
<p><b>INTEGRATIVE DESIGN PROCESS (IDP)</b></p>	
<p>Is there a matrix that will be used in the evaluation of the designs? A decision matrix can take more than a year to develop.</p>	<p>MV offered that the decision criteria and a system to sort through a complex, multiple objective process will be covered at the Community Workshop on November 14, 2012.</p> <p>The MV Board will make the decisions and all other information is advisory to their decisions.</p>
<p>Could the LGPAC offer the opinion that community aspects are more important than financial aspects?</p>	<p>The MV Board will be interested in the advisory committee's opinions to help them in their decisions.</p>



## 6. Public Meeting

*Marie Griggs, Public Involvement Division Manager, Engineering and Construction Department, Metro Vancouver, advised that a public meeting was being planned for November 29, 2012. She hoped that LGPAC members would participate in that meeting, and would share the meeting notification and information with their community contacts.*

*Update: Subsequent to the October 30, 2012, LGPAC meeting, MV deferred the public meeting until early 2013 when more information would be available regarding specific options affecting design of the treatment plant.*

*Comments were offered on the key role of the LGPAC to bring a variety of perspectives, specifically environmental, financial and social, in order to provide MV with more balanced feedback to assist in future decision making.*

## 7. Next Steps

*A Community Workshop would be held November 14, 2012, from 6:00 – 9:00 pm, which all LGPAC members were encouraged to attend. Chair Banham concluded the meeting at 8:46 pm.*

## ATTENDANCE

**LGPAC Members:** Christine Banham (Chair), John Croockewit, John Hunter, Peter Thompson, Diana Sollner, Jan Timmer, Troy Vassos, Brian Walker, Christianne Wilhelmson

**Metro Vancouver Resources:** Carol Mason, Fred Nenninger, Marie Griggs, Robin Mills, Vanessa Langan, Paul Dufault, Laurie Ford, Marni Robinson, Sandra Niven

**Process Facilitator:** John Forsdick, Context Research Ltd.

**Recording Secretary:** Rae Ratslef, Raincoast Ventures Ltd.